

No. 3. — *Revision of the African Snakes of the
Genera Mehelya & Gonionotophis*

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(with 2 text-figures)

The recent receipt by the Museum of Comparative Zoölogy of several file snakes from Ganta, Liberia, results in the addition of two species to the fauna of that country. It has also resulted in my attempting a revision of the complicated records of the group, in order that I might be able to apply the correct names to our specimens.

For the genus *Gonionotophis*, however, our material was very scanty, so I appealed to Mr. H. W. Parker for information on several points. With characteristic generosity he placed at my disposal manuscript notes on this genus which he had made some years ago. As a result I am able to add certain details, as mentioned in the following text, and it is encouraging to find that in every instance we had independently reached the same conclusions regarding synonymy.

In consequence of this enquiry I am led to consider the under-mentioned species as synonyms.

Simocephalus baumanni Sternfeld = *Mehelya guirali* (Mocquard)

Simocephalus chanleri Stejneger = *Mehelya c. savorgnani* (Mocquard)

Gonionotophis microps Boulenger = *Mehelya stenophthalmus* (Mocquard)

Simocephalus insignis Chabanaud = *Gonionotophis brussauxi* (Mocquard)

Simocephalus rostralis Sternfeld = *Gonionotophis grantii* (Günther)

From this it will be concluded that the relationship between the two genera, *Mehelya* and *Gonionotophis*, is of the closest nature. Between them *M. nyassae* appears to occupy an intermediate position, as it agrees with *Mehelya* in generic characters, notably in its dentition. Were this not the case the genera could be separated on the basis of those with over 200 ventrals and those with less than 180. In this respect *nyassae*, with from 171–179 ventrals, is nearer to *Gonionotophis grantii* than to any of its relatives in the genus *Mehelya*.

Boulenger (1893b) failed to give prominence to this close relationship in the arrangement which he adopted in the Catalogue of Snakes in the British Museum, owing to the scanty material at his disposal. Some of the characters which he employed for distinguishing between the two genera have since broken down. This is the case with the apical pits, said to be present on the scales of *Gonionotophis* though absent from those of *Simocephalus* (*i.e.* *Mehelya*). Some years ago

Müller (1910, p. 596) pointed out the absence of pits in both *grantii* and *rossi* (the latter now regarded as a synonym of *brussauxi*). Quite independently both Parker and I reached the same conclusion, the former with both species, the latter with only *brussauxi* available.

The presence or absence of lateral keels on the ventrals appears to be masked at times by the state of preservation. The number of ventrals cannot be utilised on account of *nyassae*, as detailed above. The only easily ascertainable character for separating the genera would, therefore, appear to be as follows:

Maxillary teeth forming an interrupted series *Mehelya*
(p. 132)

Maxillary teeth forming a continuous series *Gonionotophis*
(p. 149)

Mehelya has five species in French Cameroon, four of which also occur in the French and Belgian Congo. The centre of distribution for both genera would appear to be the French Cameroon, whence they radiated westwards to Portuguese Guinea, and, in the case of *Mehelya*, south to Angola, eastwards to the coast of Italian Somaliland and then southwards to Natal.

For the following account 1,600 titles were examined, but references to these two genera were found in only 125. Except for the references to original descriptions, citations are given in an abbreviated form which will be found in full in the bibliography at the end of this paper. Here I have endeavoured to bring together all that has been recorded of each species, reducing over-lengthy descriptions, but including all of what little is known of their breeding habits, diet, etc.

Genus MEHELYA

1847. *Heterolepis* Smith (*non* Nees, 1834), Ill. Zoöl. S. Africa, Rept., footnote to pl. lv (type *capensis*).
1854. Duméril & Bibron, p. 419.
1863. Günther, p. 359.
1863. Jan (part), p. 94.
- 1887a. Mocquard (part), p. 8.
1858. *Simocephalus* Günther (*non* Schödler, mid. ix. 1858), 9.x.1858, Cat. Snakes Brit. Mus., p. 194 (*n.n.* for *Heterolepis* A. Smith, preoccupied).
1863. Günther (part), p. 359.
- 1891e. Boulenger, p. 344.
- 1917b. Chabanaud, p. 11.
1903. *Grobbernia* Poche (*non* Holdhaus, 28.vii.1903), 21.ix.1903, Zoöl. Anz., 26, p. 699 (type *poensis*).

- Range.* Tropical and southeast Africa.

(French Cameroon; French and Belgian Congo; A.-E. Sudan; Uganda; Kenya; southern Italian Somaliland) . . . *c. savognani*
(p. 137)

- Ventrals 221-225; subcaudals 51-57; postoculars lacking.
 (Italian Somaliland north of Kismayu) *c. fiechteri*
 (p. 141)
- b. Coloration of scales in vertebral series distinct from that of dorsals and laterals.
 Ventrals 203-224; subcaudals 47-56; postoculars 1 or 2.
 (Tanganyika; Zanzibar; Mozambique; Nyasaland; Bechuana-
 land; Angola; Southern Rhodesia; Natal; eastern Cape Prov-
 ince) *c. capensis*
 (p. 142)
2. Secondary keels on scales absent or represented by two short and obtuse ones in the apical region.
- a. Diameter of eye greater than its distance from the mouth, larger than the nostril.
 Ventrals 240-256 (239-262 *vide* Boulenger); subcaudals 96-109.
 (French Guinea east to Uganda, south to Angola) *poensis*
 (p. 144)
- b. Diameter of eye less than its distance from the mouth, scarcely larger than the nostril.
 Ventrals 198-214 (228 *vide* Sternfeld); subcaudals 47-60.
 (Portuguese Guinea; Gold Coast; Togoland; French Cameroon;
 French and Belgian Congo) *stenophthalmus*
 (p. 146)
- Ventrals 171-176; subcaudals 55-63; lowest lateral scale-row obtusely keeled. (Lake Kivu east to Tana River, Kenya Colony, south to Durban, Natal) *nyassae*
 (p. 148)

MEHELYA RIGGENBACHI (Sternfeld)

- 1910d. *Simocephalus Riggenbachi* Sternfeld, Mitt. Zoöl. Mus. Berlin, 5, p. 63:
 Uba, Cameroon.
- 1919b. Boulenger, p. 281.
- 1929a. *Mehelya riggenbachi* Werner, p. 55.

Description. Frontal slightly shorter than the parietals; preocular 1; postoculars 2; labials 7; temporals 1+2. Midbody scales in 19 (23-25 on neck) rows, very strongly keeled; ventrals 229; subcaudals 68 pairs.

Coloration. Above, dark brown, except the lips and tips of dorsals which are whitish yellow; below, yellow, the outer ends of each ventral dark.

Measurements. Total length 1050 mm.

Diet. The stomach of the type held a young snake (*Dromophis lineatus*), which had been swallowed tail first.

Distribution. Cameroon: Uba. (Not located).

Remarks. Known only from the type (*non vidi*) in the Berlin Museum. From the brief description it would appear that *riggenbachi* differs only from *M. c. savorgnani*, also of the Cameroon, in possessing six more caudals and the higher number of midbody scale-rows. Fifteen, however, is so constant for *capensis* and its races that nineteen cannot be assumed to be within the range of possible variation.

MEHELYA CROSSII (Boulenger)

1895f. *Simocephalus Crossii* Boulenger, Ann. Mag. Nat. Hist. (6), **16**, p. 33:
Asaba, lower Niger River, Southern Nigeria.

1896d. Boulenger, p. 618.

1910. Lönnberg, p. 4.

1919b. Boulenger, p. 281.

1929a. Werner, p. 55.

1933f. Angel, p. 96.

1916f. *Simocephalus capensis* Chabanaud (non Smith), p. 369.

Description. Rostral nearly twice as broad as deep, just visible from above; internasals as broad as, or broader than, long, two-thirds to three quarters the length of the prefrontals; frontal as long as, or shorter than, broad, as long as, or longer than, its distance from the rostral, much shorter than the parietals; loreal as long as, or shorter than, deep; preocular 1; eye moderately large (Nigeria) or small (Dahomey); postoculars 2; upper labials 7, the third and fourth entering the orbit; temporals 1+2 (Nigeria) or 2+3 (Dahomey); 4 lower labials in contact with the anterior chin-shields, which are as short as the posterior. Midbody scales in 17 rows, strongly keeled; ventrals 234-238; anal entire; subcaudals 53 pairs.

Coloration. Above, blackish, or bright brown; below, yellowish or rosy white, the outer ends of each ventral dark.

Measurements. Total length 1250 (1100+150) mm.

Distribution. Upper Dahomey. Southern Nigeria: Asaba.

Remarks. Known only from the type in the British Museum and a larger example in Paris, apparently the specimen referred to *capensis* by Chabanaud and later identified with *crossii* by Angel. The latter suggests that *riggenbachi* may prove to be a synonym, but this is doubtful unless there was a miscount in the number of midbody scale-rows.

MEHELYA GUIRALI (Moequard)

- 1884a. *Heterolepis bicarinatus* Sauvage (*non* Duméril & Bibron), p. 145.
 1887a. *Heterolepis Guirali* Moequard, Bull. Soc. Philom. Paris (7), 11, p. 23,
 pl. ii, figs. 3-3c: Niger River, French West Africa.
 1889. *Heterolepis poensis* Boettger (part), p. 279.
 1893b. *Simocephalus guirali* Boulenger, p. 346.
 1896d. Boulenger, p. 617.
 1897b. Moequard, p. 13.
 1897. Sjöstedt, p. 24.
 1898. Werner, p. 208.
 1900b. Boulenger, p. 452.
 1902. Lampe & Lindholm, p. 17.
 1908a. Sternfeld, pp. 407, 424.
 1909b. Sternfeld, p. 14.
 1911. Lampe, p. 190.
 1915a. Boulenger, p. 203.
 1919b. Boulenger, p. 280.
 1933m. Witte, p. 88.
 1908. *Simocephalus Baumannii* Sternfeld, Sitz. Ges. Naturf. Freunde Berlin,
 p. 93.
 1908b. Sternfeld, pp. 214, 229, fig. 1.
 1915a. Boulenger, p. 203.
 1919b. Boulenger, p. 280.
 1933f. Angel (part), p. 97, fig. 34.
 1910. *Mehelya (Simocephalus) guirali* Lönnberg, p. 3.
 1910. *Mehelya (Simocephalus) baumannii* Lönnberg, p. 4.
 1929a. *Mehelya guirali* Werner, p. 55.
 1938d. Loveridge, p. 57.
 1929a. *Mehelya baumannii* Werner, p. 55.

Corrigenda. *Heterolepis guirali* and *Mehelya baumannii* have been reported in error for *M. c. savognani* by Bocage (1895a) and Sternfeld (1912c) respectively.

Description. Rostral nearly twice as broad as deep, just visible from above (see remarks below); internasals broader than long, two-thirds to four-fifths the length of the prefrontals; prefrontals as broad as long; frontal as long as, or slightly longer than, broad, as long as the prefrontals, much shorter than the parietals (see remarks below); loreal as long as deep; preoculars 1-2; eye moderate, larger than the nostril, its diameter greater than its distance from the mouth; postoculars 2, rarely 3; temporals 1+2; upper labials 7, the third, fourth and fifth entering the orbit; 5 lower labials in contact with the anterior chin-shields, which are a little longer than the posterior. Midbody

scales in 15 (17-19 on neck) rows, strongly keeled and striated, the striations directed obliquely towards the keels; ventrals 236-262; anal entire; subcaudals 59-70 (51-70 *vide* Boulenger) pairs.

Coloration. Above, blackish or violet brown, each scale tipped with yellow; below, yellow or white, the outer ends of each ventral dark.

Measurements. Total length 1240 (1080+160) mm.

Distribution. *Belgian Congo:* Kunungu. *French Congo:* Lambarene; Loango River mouth. *French Cameroon:* Bipindi; Jabassi. *British Cameroon:* Bibundi; Cape Debundsha; Victoria. *Nigeria:* Oil River. *French West Africa:* Niger River. *Togoland.* *Liberia:* Ganta.

Remarks. The type of *baumanni*, from Togoland, allegedly differed from *guirali* in the visible portion of its rostral, as seen from above, which was said to be equal to half its distance from the frontal. Sternfeld's figure, however, shows it as less than half and substantially the same as in an adult *guirali*; the frontal of *baumanni* is said to be as long as its distance from the end of the snout, while in *guirali* it is only as long as its distance from the rostral; the smoother keeling and the fewer ventrals (236 instead of 248-262). Most of these differences can be attributed to the fact that the type of *baumanni* was young, *i.e.* 430 (363+67) mm. Sternfeld's allegedly second example of *baumanni* from Aruwimi had but two labials entering the orbit and must be referred to *M. c. savorgnani*.

MEHELYA CAPENSIS SAVORGNANI (Mocquard)

1866a. *Heterolepis bicarinatus* Bocage (*non* Duméril & Bibron), p. 49.

1876a. *Heterolepis capensis* Peters (*non* Smith), p. 119.

1877a. Peters, p. 615.

1884a. Rochebrune, p. 182.

1887a. *Heterolepis Savorgnani* Mocquard, Bull. Soc. Philom. Paris (7), **11**, p. 27, pl. ii, figs. 4-4b: Ogowé, French Congo.

1887b. Mocquard, p. 80.

1891e. Boulenger, p. 345.

1893b. *Simocephalus chanleri* Stejneger, Proc. U. S. Nat. Mus., **16**, p. 726: Wange, *opposite* Manda Island, Kenya Colony.

1896d. Boulenger, p. 617.

1908a. Sternfeld, p. 407.

1909b. Sternfeld, p. 14.

1910a. Sternfeld, p. 17, fig. 16.

1915c. Boulenger, p. 621.

1924b. Loveridge, p. 5.

1895a. *Heterolepis Guirali* Bocage (*non* Mocquard), p. 84.

- 1901c. *Simocephalus phyllopholis* Werner, Zoöl. Anz., **24**, p. 301, figs. 3-4: Cameroon.
- 1919b. Boulenger, p. 280.
- 1907i. *Simocephalus Butleri* Boulenger, Ann. Mag. Nat. Hist. (7), **20**, p. 489: Between Wau and Chak Chak, Bahr el Ghazal Province, Anglo-Egyptian Sudan.
1908. Werner, p. 1868.
- 1911c. Boulenger, p. 164.
- 1915d. Boulenger, p. 647.
- 1924b. Loveridge, p. 5.
- 1910c. *Simocephalus unicolor* Boulenger, Ann. Mag. Nat. Hist. (8), **5**, p. 512: Fort Hall, Kenya Colony.
- 1915c. Boulenger, p. 621.
- 1924b. Loveridge, p. 5.
1910. *Simocephalus poensis* Lepri (*non* Smith), p. 323.
1910. *Mehelya* (or *Simocephalus*) *lamani* Lönnberg, Arkiv. Zoöl., **7**, No. 8, p. 1: Mukimbungu, lower Congo River, Belgian Congo.
1910. *Mehelya* (*Simocephalus*) *chanleri* Lönnberg, p. 4.
1910. *Mehelya* (*Simocephalus*) *phyllopholis* Lönnberg, p. 4.
1910. *Mehelya* (*Simocephalus*) *butleri* Lönnberg, p. 4.
1927. Calabresi, p. 52.
- 1912c. *Mehelya baumanni* Sternfeld (*non* Sternfeld, 1908), p. 268.
1913. *Mehelya* (*Simocephalus*) *somaliensis* Lönnberg & Andersson, Arkiv. Zool., **8**, No. 20, p. 2: Kismayu, Italian Somaliland.
- 1915a. *Simocephalus lamani* Boulenger, p. 203.
- 1933m. Witte, p. 88.
- 1934a. Schwetz, p. 381.
1917. *Mehelya lamani* Sternfeld, p. 465.
1923. Schmidt, p. 71.
- 1929a. Werner, p. 56.
- 1928f. *Mehelya butleri* Loveridge, p. 4.
- 1929a. Werner, p. 55.
- 1929h. *Mehelya chanleri* Loveridge, p. 21
- 1929a. Werner, p. 56.
- 1935a. Corkhill, p. 15.
1936. Pitman, p. 271, pl. iv, fig. 5 and pl. D, fig. 1.
- 1929a. *Mehelya unicolor* Werner, p. 55.
- 1929a. *Mehelya phyllopholis* (sic) Werner, p. 55.
- 1929a. *Mehelya somaliensis* Werner, p. 56.
- 1933f. *Simocephalus Baumannii* Angel (part), p. 97.
- 1934a. *Simocephalus Guirali* Schwetz (*non* Mocquard), p. 381.
- 1936h. *Mehelya chanleri chanleri* Loveridge, p. 24.
- 1937f. Loveridge, p. 502.
- 1938a. Pitman, pp. 304, 328.
- 1937c. *Mehelya capensis* Loveridge (*non* Smith), p. 272.

Description. Rostral nearly twice as broad as deep, visible from above; internasals broader than long, half to seven-eighths the length of the prefrontals; frontal as long as, or slightly longer, or slightly shorter than broad, as long as, or slightly longer, or slightly shorter than its distance from the rostral, much shorter than the parietals; loreal squarish, usually slightly deeper than long, or longitudinally divided (*unicolor*), or entirely absent (*phyllopholis*); preoculars 1-2; eye moderate, larger than the nostril, its diameter greater than its distance from the mouth; postoculars 1-3, normally 2; temporals

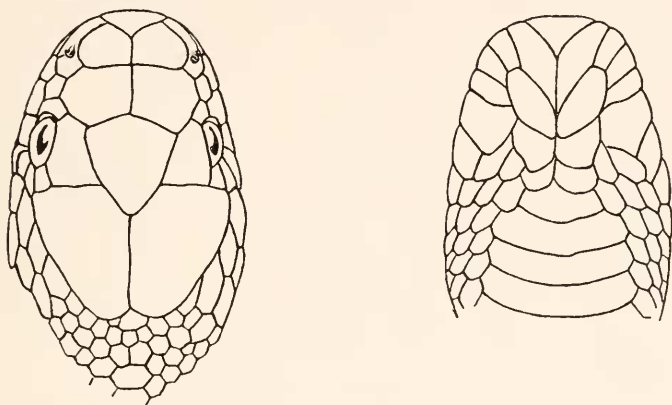


Fig. 1. *Mehelya capensis savorgnani* (Mocquard). Being the heretofore unfigured head of the type of *Simocephalus chanleri* Stejneger (U.S.N.M. 20126).

1+2, rarely 1+3; upper labials 7, the third and fourth (third, fourth and fifth on one side only of a Stanleyville snake) entering the orbit; 4-5 lower labials in contact with the anterior chin-shields which are longer than the posterior. Midbody scales in 15 (17-19 on neck) rows, strongly keeled with secondary keels and tubercles more or less developed; ventrals 218-239; anal entire; subcaudals 53-65 pairs.

Coloration. Above, black, slate, dark brown, violet-brown or olive-brown, either uniform or each scale with a light basal spot; below, uniform slate, grey, brown, or else yellowish, the outer ends of each ventral dark. (See also Pitman, 1936, p. 271 and pl. D, fig. 1.)

Measurements. Total length, ♀, 1403+ (1290+113+) mm., tail mutilated.

Diet. At Fort Hall a native encountered a large file snake swallowing a night adder (*Causus rhombceatus*); in killing the file snake, the man ruptured its gullet so that the head and forepart of the night

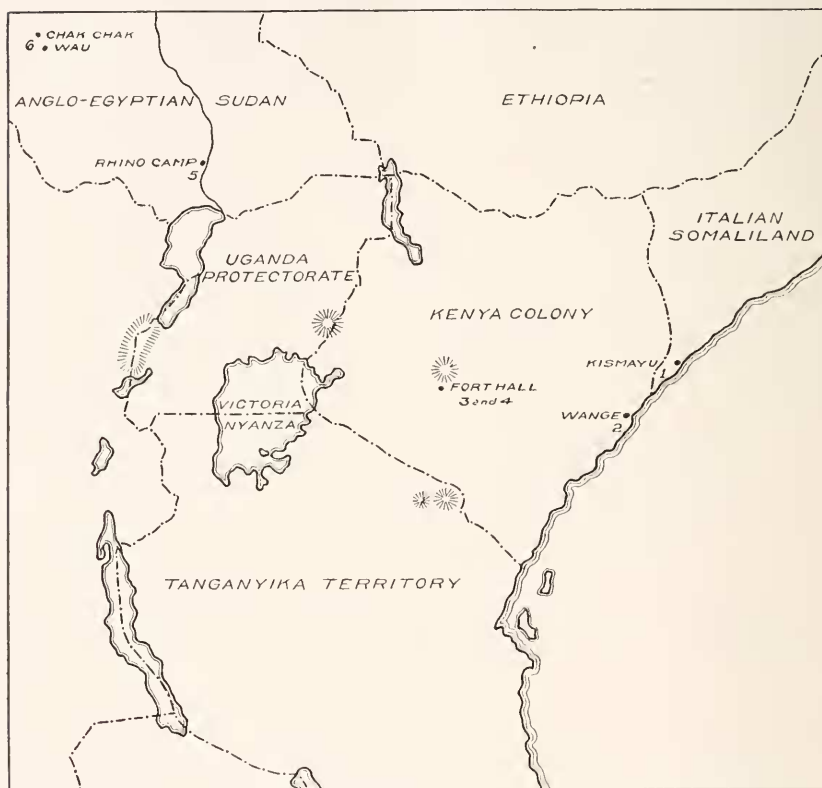


Fig. 2. Distribution of *Mehelya capensis savognnani* in East Africa. Type localities of *somaliensis* (1), *chanleri* (2), *unicolor* (3), *butleri* (6) and second records of *butleri* (4) and *chanleri* (5).

adder protruded. Nine inches had already been swallowed, the total length of the prey being twenty-one inches. Pitman has recorded a Budongo specimen, over five feet long, which was killed in the act of swallowing a sand snake (*Psammophis*) far larger than itself, "which it appeared to be successfully digesting although about ten inches of

the victim's tail protruded from its mouth!" He says that frogs are also eaten by this species.

Parasites. Pitman states that ticks are harboured by this snake.

Distribution. *Italian Somaliland*—southern: Kismayu. *Kenya Colony*: Fort Hall; Lamu Island; Wange. *Uganda*: Budongo Forest; Bussu; Entebbe; Rhino Camp. *Anglo-Egyptian Sudan*: Chak-Chak to Wau; Dilling. *Cabinda*: Chinchoxo. *Belgian Congo*: Albertville; Avakubi; Buta; Congo River; Duma; Elisabethville; Kunungu; Medje; Mukimbungu; Niangara; Stanleyville; Vube. *French Congo*: Lambarene; Ogowé. *French Equatorial Africa*: Batangafo. *French Cameroon*: Sakbayeme. (Rochebrune's record of Senegambia is rejected.)

MEHELYA CAPENSIS FIECHTERI Scortecci

1929c. *Mehelia (Simocephalus) fiechteri* Scortecci, Atti. Soc. Ital. Sci. Nat., **68**, p. 269, figs.: Duke of the Abruzzi's Villa, Italian Somaliland.
1936h. *Mehelia fiechteri* Loveridge, pp. 25–26.

Description. Rostral nearly twice as broad as deep, visible from above; internasals as broad as long, slightly shorter than the prefrontals; frontal slightly longer than broad, slightly longer than its distance from the rostral, much shorter than the parietals; supraoculars well developed; loreal squarish, entirely above the second upper labial; preocular 1; eye moderate, larger than the nostril, its diameter greater than its distance from the mouth; postoculars lacking (having fused with the supraocular and fourth labial); temporals 1+2; upper labials 7, the third and fourth entering the orbit; 5 lower labials in contact with the anterior chin-shields, which are longer than the posterior. Midbody scales in 15 rows, strongly keeled, with secondary keels present on all though best developed near the vertebral line; ventrals 221–225; anal entire; subcaudals 51–57 pairs.

Coloration. Above, uniform brown, except the lips which are greyish yellow; below, greyish yellow, on the anterior border of each ventral a more or less continuous greyish maroon stripe.

Measurements. Total length of ♀ type 465 (398+67) mm.

Distribution. *Italian Somaliland*: Villaggio Duca degli Abruzzi.

Remarks. The above description is based on the original, supplemented by data derived from the excellent drawings which accompany it and with the addition of essential scale-counts taken from the "Somaliland" specimen in the British Museum. Were it not for the existence of this second snake I should be inclined to synonymize

fiechteri with *M. c. savognani*. As, however, these two snakes agree in lacking postoculars—the only obvious character separating them from *savognani*—and constitute the two most northeasterly records of the species, it may be that a form has become differentiated north of Kismayu, where *savognani* occurs.

MEHELYA CAPENSIS CAPENSIS (Smith)

1847. *Heterolepis capensis* A. Smith, Ill. Zoöl. S. Africa, Rept., pl. lv: Eastern parts of Cape Province, South Africa.
1854. Duméril & Bibron, p. 426.
1887h. Boulenger, p. 178.
1887a. Mocquard, p. 22.
1891c. Boulenger, p. 344.
1874. *Heterolepis Gueinze* Peters, Monatsb. Akad. Wiss. Berlin, p. 163, pl. —, fig. 2: Port Natal, Natal.
1887h. Boulenger, p. 178.
1887a. Mocquard, p. 22.
1891c. Boulenger, p. 344.
1889. *Heterolepis bicarinatus* Pfeffer (*non* Duméril & Bibron), p. 9.
1893. *Simocephalus poensis* Pfeffer (*non* Smith), p. 86.
1896. Tornier, p. 69.
1897. Tornier, p. 65.
1893b. *Simocephalus capensis* Boulenger, p. 345.
1896d. Boulenger, p. 617.
1897d. Boulenger, p. 374.
1898. Sclater, p. 99.
1898. Werner, p. 413.
1900b. Boulenger, p. 452.
1907j. Boulenger, p. 486.
1908b. Boulenger, p. 228.
1908. Gough, p. 23.
1909. Chubb, p. 595.
1910b. Boulenger, p. 506.
1910a. Sternfeld, p. 17, fig. 15.
1910b. Sternfeld, p. 18, fig. 17.
1911b. Nieden, p. 442.
1912. FitzSimons, F. W., pp. 85, 96.
1913. Hewitt & Power, p. 162.
1915c. Boulenger, p. 621.
1917a. Phisalix, p. 335.
1919b. Boulenger, p. 280.
1923d. Angel, p. 166.
1931. Monard, p. 103.
1933f. Angel (part), p. 98.

1936. Cowles, p. 8.
1937a. FitzSimons, V., p. 262.
1937. Monard, p. 119.
1910. *Mehelya (Simocephalus) capensis* Lönnberg, p. 3.
1928c. *Mehelya capensis* Barbour & Loveridge, p. 114.
1929a. Werner, p. 55.
1937f. Loveridge, p. 502.

Corrigenda. *Simocephalus capensis* was reported in error for *M. crossii* by Chabanaud (1916f), but the majority of West African records of *capensis* will be found under *M. capensis sarorgnani*.

Native names. *Inyanda izulu* (S. Rhodesia); *ganga* (Angola).

Description. Rostral nearly twice as broad as deep, visible from above; internasals slightly broader than long, two-thirds to seven-eighths the length of the prefrontals (which in one instance exhibited a tendency to divide); frontal as long as, or slightly longer, or slightly shorter than, broad, as long as, or slightly longer, or slightly shorter than, its distance from the rostral, usually much shorter than the parietals; loreal squarish; preoculars 1-2; eye moderate, larger than the nostril, its diameter greater than its distance from the mouth; postoculars 1-2; temporals 1+2; upper labials 7,¹ the third and fourth entering the orbit; 4-5 lower labials in contact with the anterior chin-shields which are longer than the posterior. Midbody scales in 15 (17-19 on neck) rows, strongly keeled with secondary keels and tubercles; ventrals 203-224 (241 for the type is rejected); anal entire; subcaudals 47-56 (64 for the type is rejected) pairs.

Coloration. Above, dark olive-brown or violet-brown, middle of vertebral scales white or yellowish; below, white or yellowish, the outer ends of each ventral dark.

Measurements. Total length, ♂, 1330+(1170+160+) mm. from Umvoti River, Natal (M.C.Z.).

Breeding. On November 19, 1926, a 1119 mm. female was found in loose soil and vegetable debris, among which was an old egg-shell, at the base of an *mvuli* tree in an open pasture at Amani. In her oviducts were six eggs, measuring 42 x 30 mm., which were ready for deposition.

Temperament. The species appears to be very docile both by day and when on the move at night. No resistance was made to capture and no attempt to bite was offered by two large examples.

¹Smith's figure shows 8 upper labials, the fourth, fifth and sixth entering the orbit; as this contradicts the letterpress it must be assumed to be erroneous. I also doubt the count of 241 ventrals and 64 subcaudals which are beyond the probable range of variation. Unfortunately the type is lost.

Distribution. *Tanganyika Territory*: Usambara Mountains: Amani; Lewa; Misalae; Nguelo. *Zanzibar*: Kokotoni (This old Pfeffer record should be received with reservation pending confirmation, in view of the fact that the collector, Stuhlmann, was also in the Usambaras). *Mozambique*: Beira; Delagoa Bay. *Nyasaland*: Zomba. *Southern Rhodesia*: Bulawayo; Filabusi; Salisbury. *Bechuanaland Protectorate*: Mochudi. *Natal*: Durban (Port Natal); Umvoti River mouth; Umzumbe Valley. *Cape Province*: Eastern parts.¹ *Angola*: Ganguellas River; Vila de Ponte.

MEHELYA POENSIS (Smith)

1847. *Heterolepis poensis* A. Smith, Ill. Zoöl. S. Africa, Rept., footnote to pl. Iv: Fernando Po.
1874. Reichenow, p. 292.
- 1875a. Peters, p. 200.
1889. Boettger (part), p. 279.
- 1891e. Boulenger, p. 346.
- 1895c. Bocage, p. 13.
1905. Ferreira, p. 168.
1854. *Heterolepis bicarinatus* Duméril & Bibron, Erpét. Gén., 7, p. 422: Coast of Guinea.
1863. Jan, p. 98.
1870. Jan, livre 36, pl. vi, fig. 5.
1886. Martinez y Saez, p. 339.
- 1887a. Mocquard, p. 19, pl. i, figs. 2-2a.
1858. *Simoccephalus poensis* Günther, p. 194.
1863. Günther, p. 360.
- 1873b. Bocage, p. 218.
- 1884a. Rochebrune, p. 183.
- 1884b. Sauvage, p. 201.
- 1893b. Boulenger, p. 346.
- 1893c. Matschie, p. 211.
1897. Sjöstedt, p. 24.
1898. Werner, p. 208.
- 1899a. Werner, p. 137.
- 1902a. Werner, p. 344.
- 1903a. Bocage, p. 43.
- 1906i. Boulenger, p. 212.
- 1908a. Sternfeld, pp. 406, 424.
- 1908b. Sternfeld, pp. 213, 229.
1909. Peracca, p. 172.

¹Dr. Hewitt writes me (11. xi. 1927) that he has no material but regards a record from Bedford (H. James) as worthy of acceptance though the snake was not preserved.

- 1909b. Sternfeld, p. 14, fig. 16.
 1910. Muller, p. 600.
 1911c. Boulenger, p. 164.
 1911. Lampe, p. 190.
 1915a. Boulenger, p. 203.
 1915c. Boulenger, p. 621.
 1916f. Chabanaud, p. 369.
 1919b. Boulenger, p. 280.
 1919g. Boulenger, p. 22.
 1921a. Chabanaud, p. 468.
 1922. Aylmer, p. 15.
 1924b. Loveridge, p. 5.
 1927d. Witte, p. 322.
 1933f. Angel, p. 100, figs. 35-35a.
 1934a. Schwetz, p. 381.
 1903. *Grobberia poensis* Poche, p. 699.
 1910. *Mehelya (Simocephalus) poensis* Lönnberg, p. 3.
 1912c. *Mehelya poensis* Sternfeld, p. 199.
 1917. Sternfeld, p. 467.
 1923. Schmidt, p. 72, pl. vi.
 1929. Werner, p. 55.
 1936. Pitman, p. 272, pl. iv, fig. 6 and pl. D, fig. 2.
 1937f. Loveridge, p. 502.
 1938d. Loveridge, p. 57.
 1938a. Pitman, p. 328.

Corrigenda. *Heterolepis bicarinatus* was reported in error for *M. c. savorgnani* by Bocage (1866a), for *quirali* by Sauvage (1884a), for *M. c. capensis* by Pfeffer (1889). Part of Boettger's (1889) material of *Heterolepis poensis* is referable to *M. quirali*. *Simocephalus poensis* was reported in error for *M. c. capensis* by Pfeffer (1893) and Tornier (1896, 1897), in error for *M. c. savorgnani* by Leprie (1910).

Description. Rostral nearly twice as broad as deep, just visible from above; internasals as broad as, or broader than, long, half to three-quarters the length of the prefrontals; frontal a little longer than broad, as long as, or slightly longer, or slightly shorter, than its distance from the rostral, much shorter than the parietals; loreal as long as, or slightly longer than, deep (see remarks below); preocular 1; eye moderate, larger than the nostril, its diameter greater than its distance from the mouth; postoculars 2, very rarely 3; temporals 1+2; upper labials 7, very rarely 8, the third and fourth, or rarely the fourth and fifth, entering the orbit; 4-5 lower labials in contact with the anterior chin-shields, which are slightly longer than the posterior. Midbody scales in 15 (17-19 on neck) rows, strongly keeled, secondary

keels feebly marked or absent; ventrals 240–256 (239–262 *vide* Angel); anal entire; subcaudals 96–124 (Smith's type had 67 subcaudals, but it was subsequently shown that its tail was truncated; possibly this is also the case with the snake listed by Boulenger as having 85 subcaudals; he later gave the range as 75–124 but as no 75 has appeared in the literature it may be a misprint for 85) pairs.

Coloration. Above, uniform blackish, greyish, or pale brown, or each scale edged with lighter; below, white or yellowish, the outer ends of each ventral dark.

Measurements. Total length 1200 (980+220) mm.

Dict. The stomach of the type of *bicarinatus*, as well as those of a Molundu and a Ganta snake, held skinks (*Mabuya blandingii* and *sp.*). That of another Ganta snake held two large agamas (*Agama a. savatieri*), and Mr. Parker informs me that the "*Cordylus*" lizard, recorded by Günther as present in the stomach of a Calabar specimen, is a somewhat digested *Agama* also.

Habitat. Beneath the bark of a dead tree at Zoubourouma; in grass at Stanleyville; in a plantation at Gamangui.

Distribution. *Uganda:* Budongo Forest; Bussu; Mitiana. *Angola:* Cazengo; Cabcicula. *Cabinda.* *Belgian Congo:* Avakubi; Gamangui; Koloka; Makaia Ntete; Medje; Molundu; Nala; Stanleyville; Uptoto. *French Congo:* Fernand Vaz; Isongo. *Spanish Guinea:* Elobey Island. *Fernando Po:* San Carlos. *French Cameroon:* Bipindi; Bonamandune; Bonge; Campo; Jossplatte; Longji (Lonji); Mundame; Jaunde (Yaunde). *British Cameroon:* Bibundi; Deidodorf; Jabassi. *Nigeria.* *Togoland.* *Gold Coast.* *Liberia:* Ganta. *Sierra Leone.* *French Guinea:* Zoubourouma. (Rochebrune's record of Senegambia is rejected).

Remarks. Boulenger's (1919g) suggestion that Sternfeld's (1912c) record of *baumanni* should be referred to *poensis* was incorrect; its subcaudal count of 65 shows that it is referable to *M. c. savorgnani*.

Sternfeld (1917) records a snake from Molundu in which the loreal is separated from the preocular (on the right side of the head only) by the prefrontal forming a suture with the third upper labial.

MEHELYA STENOPHTHALMUS (Mocquard)

1887a. *Heterolepis stenophthalmus* Mocquard, Bull. Soc. Philom. Paris (7), **11**, p. 16, pl. i, figs. 1–1b: Assini, Gold Coast and Cape Lopez, French Congo.

1896a. Bocage, p. 77.

1893b. *Simocephalus stenophthalmus* Boulenger, p. 347.

1908a. Sternfeld, pp. 407, 424.

- 1908b. Sternfeld, pp. 213, 229.
1909b. Sternfeld, p. 14.
1910. Müller, p. 600.
1911. Lampe, p. 190.
1919b. Boulenger, p. 281.
1924b. Werner, p. 31.
1933f. Angel, p. 99.
1911a. *Gonionotophis microps* Boulenger, Ann. Mag. Nat. Hist. (8), 8, p. 370:
Bitye, French Cameroon.
1919b. Boulenger, p. 279.
1924b. Werner, p. 31.
1927d. Witte, p. 322.
1929a. Werner, p. 53.
1933m. Witte, p. 88.
1929a. *Mchelya stenophthalmus* Werner, p. 54.

Description. Rostral once and a half as broad as deep, just visible from above; internasals broader than long, two-thirds the length of the prefrontal; frontal as long as broad, as long as its distance from the rostral, much shorter than the parietals; loreal as long as deep or usually slightly longer, rarely absent through fusion with the preocular; preocular 1; eye small, scarcely larger than the nostril, its diameter less than its distance from the mouth; postoculars 1-2; temporals 1+2; upper labials 7, the third and fourth entering the orbit; 4-5 lower labials in contact with the anterior chin-shields, which are slightly longer than the posterior. Midbody scales in 15 (19 on neck) rows, faintly keeled, a short secondary keel on either side of the median one apically, present or absent; ventrals 198-214 (228 *vide* Sternfeld); anal entire; subcaudals 47-60 pairs.

Coloration. Above, uniform dark purplish brown, olive, or blackish; below, yellowish, the outer ends of each ventral dark, subcaudals dusky, their posterior edges lighter.

Measurements. Total length 700 (590+110) mm. See remarks below.

Diet. The stomach of one of the cotypes of *microps* held a snake of the same species.

Distribution. *Belgian Congo:* Makaia Ntete. *French Congo:* Cape Lopez; Isongo. *French Cameroon:* Bipindi; Bitye; Dibongo. *British Cameroon:* Bibundi. *Togoland.* *Gold Coast:* Assini. *Portuguese Guinea:* Bissau.

Remarks. The greatest length given above is that of one of Mocquard's cotypes, still the largest example known. Boulenger (1893b, p. 347) quoted this erroneously as: Total length 590 mm., tail 110 mm.

MEHELYA NYASSAE (Günther)

- 1888b. *Simocephalus nyassae* Günther, Ann. Mag. Nat. Hist. (6), **1**, p. 328:
Lake Nyasa, Nyasaland.
- 1891a. Boulenger, p. 306.
- 1893b. Boulenger, p. 347, pl. xxiii, fig. 2.
1899. Selater, p. 99.
1908. Gough, p. 23.
- 1910b. Boulenger, p. 506.
1910. Lönnberg, p. 3.
- 1910a. Sternfeld, p. 17.
1912. FitzSimons, F. W., p. 85.
- 1915c. Boulenger, p. 622.
- 1923e. Loveridge, p. 878.
- 1924b. Loveridge, p. 5.
- 1896a. *Heterolepis nyassae* Bocage, p. 91.
- 1906a. *Gonionotophis degrijsi* Werner, Zoöl. Anz., **30**, p. 53: Usambara Mountains, Tanganyika Territory.
- 1909d. Werner, p. 217.
- 1929a. *Mehelya nyassae* Werner, p. 55.
- 1936j. Loveridge, p. 243.
- 1937f. Loveridge, pp. 493, 496.

Description. Rostral nearly twice as broad as deep, just visible from above; internasals broader than long, half to two-thirds the length of the prefrontals; frontal as long as, or slightly longer than, broad, as long as, or shorter than, its distance from the rostral, much shorter than the parietals, twice as broad as a supraocular; loreal once and a half to twice as long as deep; preoculars 1-2; eye moderate, larger than the nostril, its diameter less than its distance from the mouth; postocular 1; temporals 1+2; upper labials 7, the third and fourth entering the orbit, the fifth sometimes touching the parietals; 5 lower labials in contact with the anterior chin-shields, which are longer than the posterior. Midbody scales in 15 (17-19 on neck) rows, strongly keeled, except the outer row which is feebly keeled, with a pair of secondary keels at the apex on either side of the median one; ventrals 171-178; anal entire; subcaudals 55-63 pairs.

Coloration. Above, uniform slate, blackish brown or dark brown; below, paler, brownish, yellowish olive or white, the outer ends of each ventral faintly like the dorsum.

Measurements. Total length of ♀, a cotype of *degrijsi*, 576 (460+116) mm.

Breeding. On June 13, at Wema, the oviducts of a ♀ held three eggs, each measuring 10 x 4 mm.

Defence. A Nyasa File Snake, on being struck, emitted a most foul odor, far surpassing that of the European Grass Snake.

Habitat. One was taken in a termite hill at Lumbo, another in grass on the banks of the Tana River.

Distribution. *Belgian Ruanda-Urundi:* between Lakes Kivu and Tanganyika. *Kenya Colony:* Ngatana; Wema. *Tanganyika Territory:* Usambara Mountains. *Zanzibar.* *Mozambique:* Delagoa Bay; Lumbo. *Nyasaland:* Lake Nyasa. *Transvaal:* Leydsdorp. *Natal:* Durban.

Remarks. It was Boulenger (1915c) who synonymized *G. degrijsi* with *S. nyassae*, an action at which Werner (1909d) protested, despite the fact that the scale formula of his third specimen was identical with that of the type of *nyassae*. At my request Mr. Parker has kindly reexamined the type of *nyassae*, and states that its dentition is very distinctly that of a *Mehelya*.

In addition to its dental differences *Mehelya nyassae* appears to differ from *Gonionotophis grantii* of the West Coast chiefly in having more strongly keeled scales, the outer row obtusely keeled (smooth in *grantii*), and in possessing fewer subcaudals.

Genus GONIONOTOPHIS

1889. *Gonionotus* Mocquard (*non* Gray), Bull. Soc. Philom. Paris (8), **1**, p. 146 (type *brussauxi*).

1893b. *Gonionotophis* Boulenger, Cat. Snakes Brit. Mus., **1**, p. 323 (n.u. for *Gonionotus* Mocquard, preoccupied).

1916f. *Cephalosimus* Chabanaud, Bull. Mus. Paris, **23**, p. 369 (type *insignis* = *brussauxi* of new subgenus of *Simocephalus* Günther).

Maxillary and dentary bones angularly bent inwards anteriorly; maxillary teeth 25 to 30, anterior slightly longer but forming a *continuous series* with the posterior; maxillary processes distinct and widely separated; external process of palatine bone on the posterior half, or in centre, of the palatine, in contact with, but not overlapping the anterior maxillary process; *no internal palatine process*; palatine teeth 14-15; pterygoid teeth about 40. Head scarcely distinct from neck, much depressed; eye small, with vertically elliptic pupil; nostril large. Body cylindrical, scales more or less keeled and with traces of a pair of secondary keels on the apical region of each scale often present, without apical pits, in 15-21 rows, at midbody, those of the vertebral series enlarged and bicarinate; ventrals less than 190, rounded. Tail moderate; subcaudals in two rows. Hypapophyses developed throughout the vertebral column.

Range. West Africa from the French Congo to Portuguese Guinea.

Remarks. I am indebted to Mr. H. W. Parker for all the anatomical additions to Boulenger's definition which are contained in the above description of the genus.

Synopsis of the Species

Midbody scales in 21 rows.

Ventrals 169-180; subcaudals 73-92.

(Portuguese Guinea to French Congo) *brussauxi*
(p. 150)

Midbody scales in 19 rows.

Ventrals 167-173; subcaudals 90-94.

(Togoland) *klingi*
(p. 151)

Midbody scales in 15 rows.

Ventrals 162-178; subcaudals 62-67; lowest lateral scale-row smooth.

(Portuguese Guinea to French Cameroon) *grantii*
(p. 152)

GONIONOTOPHIS BRUSSAUXI (Mocquard)

1889. *Godionotus (sic) Brussauxi* Mocquard, Bull. Soc. Philom. Paris (8), **1**,
p. 146, pl. ii: Between Ludinia and Niari Rivers, French Congo.

1891e. *Gonyonotus Brussauxi* Boulenger, p. 345.

1893b. *Gonionotophis brussauxi* Boulenger, p. 323.

1895a. Bocage, p. 83.

1897b. Mocquard, p. 13.

1900b. Boulenger, p. 452.

1915a. Boulenger, p. 203.

1919b. Boulenger, p. 279.

1929a. Werner, p. 53.

1933f. Angel, p. 78.

1892b. *Gonionotus vossii* Boettger, Zoöl. Anz., **15**, p. 418: Cameroon.

1893b. *Gonionotophis vossii* Boulenger, p. 323.

1897. Sjöstedt, p. 35.

1898. Boettger, p. 35.

1898. Werner, p. 208.

1906i. Boulenger, p. 212.

1908a. Sternfeld, pp. 404, 422.

1908b. Sternfeld (part), pp. 211, 228.

1909b. Sternfeld, p. 11, figs. 13-13a.

1909d. Werner, p. 217.

1910. Müller, p. 596.

1915a. Boulenger, p. 203.

1922a. Mertens, p. 179.

1916f. *Simocephalus insignis* Chabanaud, Bull. Mus. Paris, **22**, p. 369, figs. 10-11: Ogowé, French Congo.

Description. Rostral once and a half to twice as broad as deep, just visible from above; internasals very short, much broader than long; prefrontals as long as, or longer than, broad; frontal as long as, or shorter than, broad, as long as its distance from the rostral or end of snout, much shorter than the parietals; supraocular very small; loreal more than twice as long as deep; no preocular, the loreal and prefrontal entering the orbit; eye moderate, larger than the nostril, its diameter slightly greater than its distance from the mouth; postoculars 2; temporals 1+2 or 2+2; upper labials 8, the fourth and fifth entering the orbit; 4-5 lower labials in contact with the anterior chin-shields, which are longer than the posterior. Midbody scales in 21 (23-27 on neck) rows, rugose and strongly keeled, secondary keels not distinct; ventrals 169-180 (185 *vide* Boulenger); anal entire; subcaudals 73-92 (95 *vide* Boulenger) pairs.

Coloration. Above, uniformly blackish brown or brown, the scales edged with lighter; below, and on the lips, clear brownish yellow or dirty yellow.

Measurements. Total length of type of *rossi*, 454 (344+110) mm.

Distribution. *French Congo:* Lambarene; Ludinia-Niara Rivers; Ogowé. *French Cameroon:* Bipindi; Bitye; Campo; Dehane; Dibonga; Efulen; Kribi; Mukonje farm, Mundame; Pungo Songo. *British Cameroon:* Bibundi; Victoria. *Portuguese Guinea:* Rio Cassine.

Remarks. Mocquard (1897b, p. 13), on reexamining the type of *brussaui*, concludes that the vertebral series is sharply bicarinate throughout and that *rossi* cannot be considered distinct. Boulenger (1919b, p. 279) suggests that *insignis*, which was based on a very young snake with unhealed umbilic, is a synonym of *brussaui*. This suggestion was later stated to be correct by Angel (1933f, p. 7).

GONIONOTOPHIS KLINGI Matschie

1893b. *Gonionotophis klingi* Matschie, Sitz. Ges. Naturf. Freunde Berlin, p. 172: Bismarckburg, Togo.

1893c. Matschie, p. 211.

1896d. Boulenger, p. 614.

1902a. Werner, p. 338.

1919b. Boulenger, p. 279.

1933f. Angel, p. 78.

1908b. *Gonionotophis rossii* Sternfeld (part, *non* Boettger), pp. 211, 228.

Description. Rostral just visible from above; internasals broader than long; prefrontal slightly longer than broad; frontal as long as its distance from the rostral, shorter than the parietals; supraocular small; loreal twice as long as deep; preocular 0, rarely 1 (as in type and on one side of head in *Atakpame* snake); postoculars 2; temporals 1+2 or 2+2; upper labials 8 (not 7, *fide* Werner), the fourth and fifth entering the orbit; 5 lower labials in contact with the anterior chin-shields, which are longer than the posterior. Midbody scales in 19 rows, keeled; ventrals 167-173; anal entire; subcaudals 90-94 pairs.

Coloration. Above blackish brown, the scales edged with lighter; below, yellowish.

Measurements. Total length of type, 420 (295+125) mm.

Distribution. *Togoland*: Atakpame; Bismarekburg.

Remarks. Apparently only differs from *brussauxi* in having 19 midbody scale-rows instead of 21. Sternfeld (1908b, p. 211) synonymized *klengi* with *rossi* (i.e. *brussauxi*) on this account, but the fact remains that all five known Togo snakes have had only 19 rows in opposition to those from elsewhere.

GONIONOTOPHIS GRANTII (Günther)

1863. *Simocephalus Grantii* Günther, Ann. Mag. Nat. Hist. (3), **12**, p. 360, pl. v, fig. F: West Africa.

1873b. Bocage, p. 220.

1884a. Rochebrune, p. 183.

1887a. Mocquard, p. 13.

1891e. Boulenger, p. 345.

1891e. *Gonyonotus Grantii* Boulenger, p. 345.

1893b. *Gonionotophis grantii* Boulenger, p. 324, pl. xxiii, fig. 1.

1895a. Bocage, p. 84.

1901b. Werner, p. 636.

1908b. Sternfeld, pp. 212, 228.

1919b. Boulenger, p. 279.

1929a. Werner, p. 53.

1933f. Angel, p. 77, fig. 27.

1910d. *Simocephalus rostralis* Sternfeld, Mitt. Zool. Mus. Berlin, **5**, p. 63: Cameroun.

1919b. Boulenger, p. 280.

1929a. Werner, p. 55.

Description. Rostral nearly twice as broad as deep, just visible from above; internasals broader than long, half the length of the prefrontals; frontal as long as broad, as long as its distance from the rostral, much shorter than the parietals; supraocular very small;

loreal twice as long as deep; preocular 1; eye moderate, larger than the nostril, its diameter about equal to its distance from the mouth; postoculars 1-2; temporals 1+2; upper labials 7, the third and fourth entering the orbit, the fifth sometimes in contact with the parietal; 5 lower labials in contact with the anterior chin-shields, which are longer than the posterior. Midbody scales in 15 (19 on neck) rows, rather feebly keeled, not rugose except outer row which is smooth; ventrals 162-178; anal entire; subcaudals 62-67 pairs.

Coloration. Above, blackish brown, the scales edged with lighter; below, yellowish, sometimes a brown line beneath the tail.

Measurements. Total length of ♀, 495 (390+105) mm.

Distribution. *Cameroon* (*rostralis* type). *Togoland*. *Gold Coast*. *French Guinea*: Kouroussa. *Portuguese Guinea*: Bissao. (Rochebrune's Senegambia record is rejected pending confirmation).

Remarks. The types of *grantii* were males, that of *rostralis* apparently a female, differing only from the range of variation of *grantii* in possessing seven more ventrals and five fewer subcaudals.

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